

CLAIMS

1. In a wireless remote control system for controlling power distribution from a power source to a computer the combination comprising:

a master controller computer for generating power distribution

5 signals;

a wireless signal receiver for receiving power distribution signals;

a wireless signal transmission link delivering power distribution signals from said master controller to said wireless signal receiver;

an external power switch disposed between the power source and the computer and having an open condition in which the power source is disconnected from the computer and a closed condition in which the power source is connected to the computer;

an intelligent agent that receives signals from said wireless signal receiver, distributes control signals to and receives signals from the computer to be controlled and controls the condition of said power switch;

a two-way communication link between the computer to be controlled and said intelligent agent over which signals between said intelligent agent and the computer to be controlled are transmitted.

2. The system of claim 1 further comprising a database of information

20 about the controlled computer and used by said master controller computer to generate a computer shutdown control signal that is recognized by the controlled computer.

3. The system of claim 2 wherein the controlled computer responds to a to a computer shutdown signal by executing an orderly shutdown routine

25 and then transmits a signal indicating that it is safe to disconnect the power source from the controlled computer, which signal is transmitted to

0  
10  
15

said intelligent agent.

4. The system of claim 3 wherein said intelligent agent responds to a signal from the controlled computer that it is safe to disconnect the power source from the controlled computer by opening said external power switch and thereby disconnecting the power source from the controlled computer.

5. The system of claim 4 wherein the controlled computer includes an internal power switch that is manually closed to connect power to the controlled computer and includes ACPI which, unless disabled, causes the internal power switch to open automatically after the controlled computer executes its orderly shutdown routine, but which, if disabled, does not automatically open the internal power switch after the controlled computer executes its orderly shutdown routine, but rather issues a signal indicating that it is safe to disconnect the controlled computer from the power source and further comprising:

said master controller transmitting an ACPI disabling signal along with any shutdown signal.

6. The system of claim 4 wherein the signal transmitted by said master controller computer includes security information identifying the control signal as an authorized signal and said intelligent agent only distributes a control signal to the computer to be controlled if the security information is authentic.

20 7. The system of claim 2 wherein said two-way communication link is a wireless link.

8. In a wireless remote control system for controlling power distribution to a plurality of computers, the combination comprising:

a master controller computer for generating power distribution signals

0  
10  
20  
30  
40  
50  
60  
70  
80  
90

wherein each such signal is uniquely addressed to one of the plurality of computers;

a wireless signal receiver for receiving power distribution signals;

a wireless signal transmission link delivering power distribution

5 signals from said master controller to said wireless signal receiver;

a plurality of external power switches, one said external power switches disposed between a power source and each of the computers, each said external power switches having an open condition in which the power source is disconnected from one of the computers and a closed condition in which the power source is connected to one of the computers;

an intelligent agent that receives signals from said wireless signal receiver, said intelligent agent having a plurality of two-way communication links, one between said intelligent agent and each of the plurality of computers, said intelligent agent having a communication link with each of said external power switches, wherein said intelligent agent can distribute control signals to and receives signals from each of the plurality of computers according to the address information in the signals from said master controller computer and controls the condition of said power switches.

20 9. The system of claim 8 wherein said two-way communication links between said intelligent agent and the plurality of computers is wireless.

10. The system of claim 8 further comprising a database of information about the plurality of computers and used by said master controller computer to generate a computer shutdown control signal that is addressed 25 to one of the plurality of computers and recognized by that computer .

11. The system of claim 10 wherein each of the plurality of computers

10  
PCT/EP2004/03035  
15

responds to a computer shutdown signal by executing an orderly shutdown routine and then transmitting a signal indicating that it is safe to disconnect the power source from that computer, which signal is transmitted to said intelligent agent over the two-way communication link.

5 12. The system of claim 11 wherein said intelligent agent responds to a signal from one of the plurality of computers that it is safe to disconnect the power source from that computer by opening said external power switch between that computer and the power source and thereby disconnecting the power source from that computer.

13. The system of claim 12 wherein at least one or more of the plurality of computers includes an internal power switch that is manually closed to connect power to the controlled computer and includes ACPI which, unless disabled, causes the internal power switch to open automatically after the computer executes its orderly shutdown routine, but which, if disabled, does not automatically open the internal power switch after the computer executes its orderly shutdown routine, but rather issues a signal indicating that it is safe to disconnect that computer from the power source and further comprising:

20 said master controller transmitting an ACPI disabling signal along with any shutdown signal to any of the plurality of computers having ACPI.

14. The system of claim 12 wherein control signals transmitted by said master controller computer include security information identifying the control signal as an authorized signal and said intelligent agent only distributes a control signal to one of the plurality of computers if the 25 security information is authentic.

15. The system of claim 8 wherein said power switches are located at the

power source and are wirelessly controlled by said intelligent agent.

16. The system of claim 9 wherein said power switches are located at the power source and are wirelessly controlled by said intelligent agent.

17. The system of claim 13 wherein said power switches are located at the power source and are wirelessly controlled by said intelligent agent.

18. A method of wirelessly controlling one or more remote devices to be controlled, including the steps of:

providing a database with specific information relating to each device to be controlled;

generating a device control signal using information from the database;

wirelessly transmitting the device control signal to a satellite;

wirelessly transmitting the device control signal from the satellite to a control signal transceiver;

distributing the control signal from the transceiver to the device to be controlled;

transmitting a signal from the device to be controlled to the transceiver indicating that the device to be controlled is ready to be controlled;

20 generating a signal that controls some aspect of the device to be controlled.

19. A method of wirelessly controlling one or more remote devices to be controlled, including the steps of:

generating a device control signal;

25 wirelessly transmitting the device control signal to a satellite;

wirelessly transmitting the device control signal from the satellite to a

10  
5  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95

control signal transceiver;

distributing the control signal from the transceiver to the device to be controlled;

transmitting a signal from the device to be controlled to the

- 5 transceiver indicating that the device to be controlled is ready to be controlled;

generating a signal that controls some aspect of the device to be controlled.

20. A method of wirelessly controlling power distribution to a plurality of computers each of which is connected to a power source, including the steps of:

generating power distribution control signals addressed to one or more of the plurality of computers;

wirelessly transmitting the power distribution control signals to a satellite;

wirelessly transmitting the power distribution control signals from the satellite to a control signal receiver;

distributing control signals from the control signal receiver to an intelligent agent;

- 20 transmitting over a two-way communication link a control signal from the intelligent agent to each of the plurality of computers addressed by the signal;

receiving a safe-to-shut-down signal by the intelligent agent over the two-way communication link from one of the plurality of computers

- 25 receiving a control signal;

disconnecting from its power source each computer from which a safe-

to-shut-down signal is received by the intelligent agent.

21. The method of claim 20 wherein the power distribution control signals include a ACPI disabling signal.

22. The method of claim 20 wherein the power distribution control signals 5 include security information.

23. The method of claim 20 wherein transmissions over the two-way communication link are wireless.

24. The method of claim 20 wherein the last step recited includes transmitting a wireless signal.

25. In a wireless remote control system for controlling power distribution to a plurality of computers wherein the computers include wireless controlled internal power relay switches, the combination comprising:

a master controller computer for generating power distribution signals wherein each such signal is uniquely addressed to one of the plurality of computers;

a wireless signal receiver for receiving power distribution signals;

a wireless signal transmission link delivering power distribution signals from said master controller to said wireless signal receiver;

an intelligent agent that receives signals from said wireless signal

20 receiver and distributes them to the computer to which they are addressed and to the internal power switch of the computer addressed.

26. The system of claim 25 wherein the signals transmitted to the wireless signal receiver include computer shutdown signals and computer startup signals.

10  
15  
20  
25